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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,353	02/27/2002	Ken Yoshioka	503.38156VX1	1842

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EXAMINER	
MOORE, KARLA A	
ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/083,353	YOSHIOKA ET AL.	
	Examiner	Art Unit	
	Karla Moore	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,769,952 to Komino in view of U.S. Patent No. 6,391,148 to Marks et al.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Komino discloses an apparatus for processing a specimen substantially as claimed and comprising: an etching process unit (Figure 1, 10A-C; column 5, rows 48-59), which is supplied with a gas to produce plasma (column 12, rows 9-12); a rinsing unit (18A and 18C; column 6, rows 7-10); and a dryer unit (18B and 18D; column 5, rows 48-59) for drying. Komino further teaches that the operations in the etching process unit and the rinsing and/or drying unit can take place in succession (column 6, rows 10-20). Additionally, the apparatus of Komino may be constructed to comprise plural deposition units, which may be used continuously, along with the etching, rinsing and drying units (column 5, rows 48-51). This fairly suggests that the apparatus would be capable of processing a substrate with multiple layers.

5. However, Komino fail to teach the apparatus capable of processing a specimen while controlling the temperature of the substrate below 200°C.

6. Marks et al. teach an etching apparatus comprising a temperature control mechanism for the purpose of bringing the wafer temperature to the appropriate range for etching of the relevant layer (column 2, rows 32-35 and 57-59). The control mechanism is capable of control at temperatures less than 200°C. Marks et al. further teach the using a low pressure, high density, low ion energy plasma for delivering superior etching results (column 9, rows 7-33).

7. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided an etching apparatus with a temperature control mechanism in Komino in order to bring the wafer temperature to the appropriate range for etching of the relevant layer as taught by Marks et al. It would have also been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided an apparatus capable of plasma processing conditions such as low pressure, high density and low ion energy in Komino in order to deliver superior etching results as taught by Marks et al.

8. With respect to the limitations of claim 1 drawn to an intended method to be performed using the apparatus, the courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus form a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex Parte Masham, 2, USPQ 2d 1647 (Bd. Pat. App. & Inter. 1987).

9. With respect to the limitations of claim 1 drawn to the article to be worked upon and the specific composition of the layer on the substrate, the courts have ruled that the inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. In re Young, 75 F. 2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F. 2d 937, 136 USPQ 458, 459 (CCPA 1963)).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komino as and Marks et al. applied to claim 1 above, and further in view of U.S. Patent No. 5,303,671 to Kondo et al. and Japanese Patent No. 60-183996 to Kameyama.

12. Komino and Marks et al. disclose the invention substantially as claimed and as described above.

13. Additionally, Komino discloses: an atmospheric loader (20); a vacuum transport chamber (14) having a vacuum transport robot (16) therein; and unload and loadlock chambers (130A and 130B) connecting between said atmospheric loader and said vacuum transport chamber for delivering the specimen via an atmospheric transport unit (22), wherein said vacuum transport chamber is connected to all of the etching process chambers of said etching process unit, and said atmospheric loader is connected via said atmospheric transport unit to said rinsing unit and drying unit.

14. With respect to claim 3, Komino teaches that any number of the three processing chambers, 10A-C, may be etching chambers (column 5, rows 48-59).

15. However, Komino and Marks et al. fail to teach a rinsing cup in the rinsing unit and a hot plate in the drying unit.

16. Kondo et al. teach the use of a hot plate for the purpose of heating/drying a specimen after washing (column 8, rows 28-30).

17. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a hot plate in the drying unit of Komino in order to heat/dry a specimen after washing as taught by Kondo et al.

18. Kameyama teaches the use of a rinsing cup for the purpose of reducing the adhesion of dust, to use only a small amount of treating liquid and to equalize the extent of a treatment (purpose and constitution).

19. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a rinsing cup in the rinsing unit of Komino in order to reduce adhesion of

dust, use only a small amount of treating liquid and to equalize the extent of treatment as taught by Kameyama.

Response to Arguments

20. Applicant's arguments, see Paper No. 9, filed 06/03/03, with respect to the rejection(s)of claim(s) 1-3 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Marks et al. Applicant amended claims to recite that the substrate is controlled to a temperature below 200°C. Komino does not disclose or fairly teach an apparatus with this capability. Marks et al. has been cited to provide these teachings.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 703.305.3142. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703.308.1633. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.

km

GREGORY MILLS
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TECHNOLOGY CENTER 1700